Wildlife Monitoring of Colonial Nesting Birds Via Photographs.



Project Title	Wildlife Monitoring of Colonial Nesting Birds Via Photographs.
Project Summary	Use software code to help automate the processing of bird nesting photographs with the goal of getting faster and better data.
Country	United States

Project Description

Nesting colonies of wading birds and seabirds are important indicators of ecosystem health, as they respond to changes in food abundance, food quality, contaminants, and disturbances. The acts of selecting mates, building nests, laying eggs and rearing chicks, are energy intensive activities. If the habitat is insufficient to support these activities, nesting success will suffer and may indicate a problem in the ecosystem.

The National Park Service, South Florida/Caribbean Inventory and Monitoring Network (SFCN) has been monitoring colonial nesting birds monthly via low level aerial photography from a helicopter platform in Biscayne National Park since 2010. These photographs are processed to determine the number of active nests for specific focal species: Double-crested Cormorants, Great Egrets, Great White Herons, Great Blue Herons, White Ibises, and Roseate Spoonbills. We now have 10 years of nesting data and have an extensive data set of bird nesting data (44,376 nest and 45,317 birds representing 35 taxon).

This monitoring is time consuming and needs to be accomplished consistently and accurately. Currently, the aerial photos are processed by individuals. We propose to have the intern explore the creation of automatic script that would allow these nest to be identified using software. The goal of this internship is to explore software programs and create automatic script which could indicate potential bird nest is present on the photograph and to highlight this area on the photograph.

This long-term monitoring project is already producing important information for resource managers. We know this monitoring can be improved and we would like to be able to work with someone interested in expanding our abilities and in return we are able to help guide and explain the National Park Service resource monitoring based on our experiences.

Website for this project: https://www.nps.gov/im/sfcn/colonial-birds.htm

Required Skills or Interests

Skill(s)
Coding
Data analysis
Data visualization
Research
Writing

Additional Information

There is a 3 person team that works on this monitoring currently. Come join the group and have a fun time collaborating on new skills.

Website for our monitoring office https://www.nps.gov/im/sfcn/index.htm

Language Requirements

None